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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF MAILING

I hereby certify that this **INFORMATION DISCLOSURE STATEMENT** and documents submitted therewith are being deposited with the United States Postal Service as first class mail, postage prepaid thereon, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Nancy Malsich  
Nancy Malsich

10/20/04  
Date

|                                  |   |                            |
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| Applicant: Wong, et al.          | ) |                            |
|                                  | ) | Group: 1614                |
| Serial No.: 10/798,617           | ) |                            |
|                                  | ) | Confirmation No.: 6187     |
| Filed: March 10, 2004            | ) |                            |
|                                  | ) | Examiner: Unassigned       |
| For: IMINOCYCLITOL INHIBITORS OF | ) |                            |
| HEXOAMINIDASE AND GLYCOSIDASE    | ) | Our Ref.: TSRI 696.1 Div 1 |

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In recognition of its continuing duty to disclose pursuant to 37 CFR §1.56, Applicant hereby submits the present Information Disclosure Statement in compliance therewith.

Pursuant to 37 CFR §1.98(d), enclosed herewith is a copy of 1) the Information Disclosure Statement and 2) the accompanying PTO Form 1449 filed in the application 09/980,869. Application 09/980,869 was filed on February 12, 2002 and has issued as U.S. Patent No. US 6,774,140 B1, to which the present application is related by division. Also, pursuant to 37 CFR §1.98(d), copies of the above references are not submitted herewith, as they are available in the related patent application 09/980,869.

Applicants understand that the interpretation given to each reference may differ from one individual to another. The PTO is therefore encouraged to independently examine the disclosed references. While the references provided in this Information Disclosure Statement may be material pursuant to 37 CFR §1.56, it shall not be construed to be an admission that the cited information is, or is considered to be, material to patentability unless specifically designated as such.

Applicants are filing the present statement pursuant to 37 CFR §1.97(b) insofar as this statement is being filed within three months of the filing of the application and/or before the mailing date of a first Office Action.

Also, in accordance with 37 CFR §1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or, that if made, any search was complete or exhaustive, or that no other material information as defined in 37 CFR §1.56 exists.

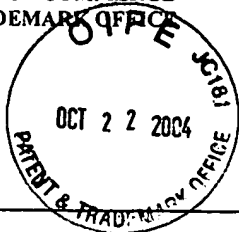
Respectfully submitted,

Oct 20, 2004  
Date

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| FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE<br><br>INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT | ATTY DOCKET NO.<br>TSRI 696.1 | SERIAL NO.<br>09/980.869 |
|  | APPLICANT<br>Wong, et al.     |                          |
|  | FILING DATE<br>2/12/2002      | GROUP<br>2875            |



## U.S. PATENT DOCUMENTS

| EXAM.<br>INITIALS | DOCUMENT<br>NUMBER | DATE | NAME | CLASS | SUB-<br>CLASS | FILING<br>DATE |
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## FOREIGN PATENT DOCUMENTS

| EXAM.<br>INITIALS | DOCUMENT<br>NUMBER | DATE | COUNTRY | CLASS | SUB-<br>CLASS | TRANSLATION<br>YES NO |
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|                   |                    |      |         |       |               |                       |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

|    |  |
|----|--|
| 1  | Hettkamp, et al., "Purification by affinity chromatography of glucosidase I, an endoplasmic reticulum hydrolase involved in the processing of asparagine-linked oligosaccharides", <u>Eur. J. Biochem.</u> 142: 85-90 (1984)   |
| 2  | Fleet, et al., "Potent Competitive Inhibition of $\alpha$ -Galactosidase and $\alpha$ -Glucosidase Activity by 1,4-Dideoxy-1,4-Iminopentitols: Syntheses of 1,4-Dideoxy-1,4-Imino-D-Lyxitol and of Both Enantiomers of 1,4-Dideoxy-1,4-Iminoarabinitol", <u>Tetrahedron Lett.</u> 26: 3127-3130 (1985) |
| 3  | Schweden, et al., "Characterization of Calf Liver Glucosidase I and Its Inhibition by Basic Sugar Analogs", <u>Archives Biochem. Biophys.</u> 248: 335-340 (1986)  |
| 4  | Pederson, et al., "A Combined Chemical and Enzymatic Procedure for the Synthesis of 1-Deoxynojirimycin and 1-Deoxymannojirimycin", <u>Tetrahedron Lett.</u> 29: 4645-4648 (1988)   |
| 5  | Ziegler, et al., "Enzyme-Catalyzed Synthesis of 1-Deoxymannojirimycin, 1-Deoxynojirimycin, and 1,4-Dideoxy-1,4-imino-D-arabinitol", <u>Angew. Chem. Int. Ed. Engl.</u> 27: 716-717 (1988)  |
| 6  | Fleet, et al., "Inhibition of HIV replication by amino-sugar derivatives", <u>FEBS Letters</u> 237: 128-132 (1988)   |
| 7  | von der Osten, et al., "Use of a Recombinant Bacterial Fructose-1,6-diphosphate Aldolase in Aldol Reactions: Preparative Syntheses of 1-Deoxynojirimycin, 1-Deoxymannojirimycin, 1,4-Dideoxy-1,4-imino-D-arabinitol, and Fagomine", <u>J. Am. Chem. Soc.</u> 111: 3924-3927 (1989)                     |
| 8  | Kajimoto, et al., "Enzyme-Catalyzed Aldol Condensation for Asymmetric Synthesis of Azasugars: Synthesis, Evaluation, and Modeling of Glycosidase Inhibitors", <u>J. Am. Chem. Soc.</u> 113: 6187-6196 (1991)   |
| 9  | Liu, et al., "Use of Dihydroxyacetone Phosphate Dependent Aldolases in the Synthesis of Deoxyazasugars", <u>J. Org. Chem.</u> 56: 6280-6289 (1991)   |
| 10 | Pan, et al., "D-Mannonolactam Amidrazone", <u>J. Biol. Chem.</u> 267: 8313-8318 (1992)   |
| 11 | Takaoka, et al., "Inhibition of N-Acetylglucosaminyltransfer Enzymes: Chemical-Enzymatic Synthesis of New Five-Membered Acetamido Azasugars", <u>J. Org. Chem.</u> 58: 4809-4812 (1993)  |
| 12 | Hughes, et al., "Deoxynojirimycin: Synthesis and Biological Activity", <u>Nat. Product Rep.</u> 135-162 (1994)   |
| 13 | Schumacher-Wandersleb, et al., "Preparation of the N-Acetylglucosaminidase Inhibitor 1-Acetamido-1,2,5-trideoxy-2,5-imino-D-glucitol from Methyl $\alpha$ -D-Mannopyranoside", <u>Liebigs Ann. Chem.</u> 555-561 (1994)  |
| 14 | Wang, et al., "Remarkable Stereoselectivity in the Inhibition of $\alpha$ -Galactosidase from Coffee Bean by a New Polyhydroxypyrrolidine Inhibitor", <u>Angew. Chem. Int. Ed. Engl.</u> 33: 1242-1244 (1994)  |

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| EXAMINER | DATE CONSIDERED |
|----------|-----------------|

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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| <b>FORM PTO-1449</b><br><b>U.S. DEPARTMENT OF COMMERCE</b><br><b>PATENT AND TRADEMARK OFFICE</b><br><br><b>INFORMATION DISCLOSURE</b><br><b>STATEMENT BY APPLICANT</b> | <b>ATTY DOCKET NO.</b><br>TSRI 696.1 | <b>SERIAL NO.</b><br>09/980,869 |
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|                   |  |                    |      |         |       |               |                       |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

|          |    |  |
|----------|----|--|
|          | 15 | Wong, et al., "Enzymes in Organic Synthesis: Application to the Problems of Carbohydrate Recognition (Part 1)", <u>Angew. Chem. Int. Ed. Engl.</u> 34: 412-432 (1995)  |
|          | 16 | Wong, et al., "Enzymes in Organic Synthesis: Application to the Problems of Carbohydrate Recognition (Part 2)", <u>Angew. Chem. Int. Ed. Engl.</u> 34: 521-546 (1995)  |
|          | 17 | Heightman, et al., "Synthesis of Galactose- and N-Acetylglucosamine-Derived Tetrazoles and Their Evaluation as $\beta$ -Glycosidase Inhibitors", <u>Helvetica Chem. Acta</u> 78: 514-532 (1995)                |
|          | 18 | Wong, et al., "Synthesis and Evaluation of Homoazasugars as Glycosidase Inhibitors", <u>J. Org. Chem.</u> 60: 1492-1501 (1995)   |
|          | 19 | Hiranuma, et al., "Synthesis and Inhibition Analysis of Five-Membered Homoazasugars from D-Arabinofuranose via an $S_N2$ Reaction of the Chloromethylsulfonate", <u>Tetrahedron Lett.</u> 36: 8247-8250 (1995) |
|          | 20 | Ganem, "Inhibitors of Carbohydrate-Processing Enzymes: Design and Synthesis of Sugar-Shaped Heterocycles", <u>Acc. Chem. Res.</u> 29: 340-347 (1996)   |
|          | 21 | Picasso, "Azasugar Glycosidase Inhibitors: Useful Tools for Glycobiologists", <u>CHIMIA</u> 50: 648-649 (1996)   |
|          | 22 | Ichikawa, et al., "1-N-Iminosugars: Potent and Selective Inhibitors of $\beta$ -Glycosidases", <u>J. Am. Chem. Soc.</u> 120: 3007-3018 (1998)  |
|          |    |  |
| EXAMINER |    | DATE CONSIDERED  |

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|-------------------|---|--------------------|------------|---------------|-------|---------------|----------------|
|                   | 1 | 5,250,703          | 10/05/1993 | Fleet, et al. |       |               |                |
|                   | 2 | 5,451,679          | 09/19/1995 | Barta, et al. |       |               |                |
|                   | 3 | 5,595,981          | 01/21/1997 | Barta, et al. |       |               |                |

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